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ABSTRACT

This study developed an instrument for the assessment of career-related barriers in a Chinese culture. A pilot version of the Chinese Career Barriers Inventory (CCBI) consisting of 95 items was tested with 403 college students in Taiwan. After item and factor analyses, the CCBI was reduced to 80 items comprising 12 scales. Reliability coefficients for the 12 scales based on a sample of 850 college students ranged from 0.68 to 0.92. Results of the factor analysis supported the construct validity of the CCBI. The Chinese version of the Career Barriers Inventory is a useful instrument for understanding college students' perceptions of career-related barriers in a Chinese culture. (Contains 3 tables and 23 references.) (Author/SLD)

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Development and Initial Validation of a Chinese Career Barriers Inventory

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ABSTRACT

The purpose of the study was to develop an instrument for the assessment of career-related barriers in a Chinese culture. A pilot version of the Chinese Career Barriers Inventory (CCBI) consists of 95 items was tested on 403 college students in Taiwan. After item and factor analyzed, the CCBI was reduced to 80 items comprising 12 scales. Reliability coefficients for the 12 scales based on a 850-college-student sample ranged from .68 to .92. Results of factor analysis supported the construct validity of the CCBI. Generally speaking, the Chinese version of Career Barriers Inventory is an applicable instrument for understanding college students' perceptions of career-related barriers in Chinese culture.

Development and Validation of the Chinese Career Barriers Inventory

In the past few years, evidence of empirical studies has demonstrated the importance of career barriers in explaining career choice process (Russell & Rush, 1987; Swanson & Tokar, 1991a, b). The perception of barriers has been increasingly recognized as an important dimension of career indecision (Lucas & Epperson, 1990). It also works as a moderator variable to explain the compromise of career goals among college students (Bowman, 1988; Slaney, 1980; Slaney & Brown, 1983). Incremental barriers may be devastating, but they arise slowly, maybe imperceptibly, and may not have strong emotional effects. However, they may lead to chronic negative emotions, such as depression (London, 1997). Therefore, we should notice the influence of barriers on one's vocational behavior and develop a concrete way to assess career barriers perceived by individuals.

The appraisal of career barriers involves subjective and intuitive assessments of the discrepancy between the way things are and the way things should be (London, 1997). Most of the time, those discrepancies come from the gap between internal attitude and external environment factors. Swanson and Tokar (1991a) tried to assess the domains of potential barriers perceived by 48 college students. In stead of the traditional internal-external classification, they sorted barriers perceived by college students into three categories: social/interpersonal, attitudinal, and interactional. Social/interpersonal barriers were defined as barriers regarding one's family of original and future marriage and children. Attitudinal barriers were defined as those primarily 'internal' in nature. Interactional barriers were defined as difficulties related to demographic characteristics and work environment.

In another article, Swanson and Tokar (1991b) further developed an objective inventory to assess career-related barriers. The inventory consists of 112 items that are divided into 18 scales. Recently, the inventory was further revised and consists of 84 items, with 16 scales (Swanson, Daniels, & Tokar, 1996).

In the past two decades, women's participation in traditionally male-dominated professions has increased in Taiwan. However, women still consider a narrower range of career options than men do. The reasons are to do with career-related barriers, which might not be perceived by the individuals.

The purpose of the study was to develop a Chines version of Career Barriers Inventory. To develop an objective multidimensional measure of career-related barriers is essential for both career counselors and individuals to discuss barriers to career development in the counseling process. In order to construct scales that are consistent across gender, responses from male and female students were analyzed together at the item analysis stage. However, data from men and women were then analyzed separately to test if the latent structure of career barriers varied by gender.

Method

Participants

Participants at the item analysis stage were 403 college students (215 males and 188 females). To test the reliability and validity of the inventory, 850 college students (370 males and 480 females) participated in this study.

Instrument

To examine the latent structure of career barriers perceived by college males and

females, the Chinese Career Barriers Inventory (CCBI) was developed in this study. It consists of 80 items, comprising 12 scales: lack of self knowledge, sex discrimination, family responsibility, inappropriate training, lack of support, attitude toward females, multiple-role conflict, discouraged nontraditional fields, dissatisfaction with career, inadequate experience, age and physical disability, and marriage and children interfere. Reliability coefficients for the 12 scales based on 850-college-student sample were between .68 and .92. The intercorrelations among the 12 scales were low to moderate, ranging from .14 to .61. The results of factor analysis also supported the construct validity of the CCBI.

Data Analyses

At the inventory development stage, data analyses involved the calculation of item means, standard divisions, response ranges, item-scale correlations, and factor analysis. Results of these analyses were used in refining the item pool. To examine the gender differences, a one-way MANOVA was conducted with gender as the independent variable and the 12 scales as the dependent variables. Separate factor analyses for males and females were also conducted on the scale correlations to examine the factor structure of the 12 scales.

Results

The Development of the Chinese Career Barriers Inventory

The pilot version of the Chinese Career Barriers Inventory (CCBI) consists of 95 items and 12 scales. After item and factor analyses based on 403 students, the CCBI was reduced to 80 items comprising 12 scales. Reliability coefficients for the 12 scales based on 850-

college-student sample were between .68 and .92. The intercorrelations among the 12 scales were low to moderate, ranging from .14 to .61. With regard to the validity test, the 12-factor solution of factor analysis supported the construct validity of the CCBI. In addition, the results of item-scale correlations revealed acceptable convergent and discriminant validity.

Gender Differences on Perceived Career Barriers

Results of the MANOVA yielded a significant overall multivariate effect for gender using Wilk's λ test [$F(12, 835)=16.46$, $p<.001$]. Follow-up univariate analyses revealed that mean scores on three of the 12 scales varied significantly by gender: (1) Sex discrimination [$F(1, 846)=80.99$, $p<.001$]; (2) Family responsibility [$F(1, 846)=12.93$, $p<.001$]; and (3) Marriage and children interfere [$F(1, 846)=31.93$, $p<.001$].

Insert Table 1 and Table 2 about here

Factor Analyses of the CCBI Scales

For females, two factors were observed with eigenvalues greater than 1.0. Six of the 12 scales loaded on Factor 1. Loadings heavily on this factor were scales reflecting females' concerns of lack of self-knowledge, age and physical disability, inappropriate training, sex discrimination, inadequate experience, and lack of support. Overall, Factor 1 seemed to reflect female students' concerns regarding interactional variables asserted by Swanson and Tokar (1991a).

Insert Table 3 about here

The other six of the 12 scales loaded highly on Factor 2. Scales loading highest concerned attitudes toward females, discouraged nontraditional fields, marriage and children interfere, multiple-role conflict, family responsibility, and dissatisfaction with career. Most of these concerns were to do with social/interpersonal and attitudinal variables (Swanson & Tokar, 1991a). The two Factors accounted for 55.40% of the total scale variance.

For males, there were also two factors with eigenvalues greater than 1.0. The scales with high loadings on Factor 1 were dissatisfaction with career, inadequate experience, age and physical disability, discouraged nontraditional fields, attitudes toward females, multiple-role conflict, family responsibility, and marriage and family interfere. These concerns were to do with social/interpersonal conditions and attitudinal factors. The four factors loaded on Factor 2 were sex discrimination, lack of support, self-knowledge, and inappropriate training. These concerns were related to interactional variables defined by Swanson and Tokar (1991a). The two Factors accounted for about 49.70% of the total variance.

Discussion and Conclusions

A Chinese version of Career Barriers Inventory was developed in the present study. Generally speaking, the results of item analyses, reliability and validity tests revealed that the CCBI is an applicable instrument for understanding college students' perceptions of

career-related barriers in a Chinese culture.

With respect to gender differences, the results of MANOVA indicated that the college women perceived more seriously on barriers related to sex-discrimination, family responsibility, and marriage and children interfere. As far as the latent structure of the CCBI, factor analyses for both males and females yielded two obvious factors. One of which was similar to 'interactional' factors; and the other to 'social/interpersonal' and 'attitudinal' factors defined by Swanson and Tokar (1991a).

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Table 1 Means and Standard Deviations of the Chinese Career Barriers Inventory

Scale	Males (N=369)		Females (N=479)		F(1,846)
	M	SD	M	SD	
Self knowledge	45.10	15.06	44.20	15.43	.73
Sex discrimination	23.55	10.67	30.65	11.93	80.99***
Family responsibility	17.95	4.73	19.04	4.15	12.93***
Inappropriate training	17.81	7.08	17.61	7.43	.15
Lack of support	19.10	7.59	19.04	8.15	.01
Attitude toward females	19.85	6.52	19.40	5.99	1.10
Multiple-role conflict	26.66	7.55	27.39	7.46	1.97
Discouraged nontraditional fields	13.31	4.71	12.84	4.27	2.36
Dissatisfaction with career	25.83	6.12	25.80	6.38	.01
Inadequate experience	15.11	4.73	15.14	4.64	.01
Age and physical disability	12.18	4.54	12.17	4.58	.002
Marriage and children interfere	17.14	5.81	19.53	6.46	31.93***

Note. Wilks F(12, 835)=16.46, p<.001; ***p<.001

Table 2 Intercorrelations among the 12 Chinese Barrier Scales (N=850)

Scale	2	3	4	5	6	7	8	9	10	11	12
1. Self-knowledge	.48	.22	.51	.49	.25	.56	.24	.26	.45	.51	.29
2. Sex discrimination		.25	.45	.50	.26	.38	.19	.14	.32	.43	.39
3. Family responsibility			.18	.20	.28	.38	.26	.26	.26	.17	.30
4. Inappropriate training				.51	.29	.45	.26	.27	.41	.50	.32
5. Lack of support					.34	.53	.24	.18	.36	.44	.39
6. Attitude toward females						.48	.39	.30	.28	.33	.38
7. Multiple role conflict							.39	.40	.45	.49	.54
8. Discouraged nontraditional fields								.26	.34	.33	.31
9. Dissatisfaction with career									.38	.30	.31
10. Inadequate experience										.61	.29
11. Age and physical disability											.41
12. Marriage and children interfere											

Table 3 Summary of Factor Analyses of the Chinese Career Barriers Inventory (N=850)

	Males (N=370)		Females (N=480)	
Scale	I	II	I	II
1. Self-knowledge	.2001	-.5501	.8320	-.0846
2. Sex discrimination	-.1212	-.7488	.6875	-.0045
3. Family responsibility	.4188	-.0116	-.0812	.5674
4. Inappropriate training	.2007	-.4739	.7043	.0319
5. Lack of support	.0114	-.7335	.5734	.1645
6. Attitude toward females	.4720	-.0401	.0384	6688
7. Multiple role conflict	.4576	-.4070	.3120	5871
8. Discouraged nontraditional fields	.4934	-.0293	-.0483	.6197
9. Dissatisfaction with career	.7192	.1439	.0738	.4067
10. Inadequate experience	.6784	-.0351	.6073	0716
11. Age and physical disability	.5311	-.2363	.7931	-.0232
12. Marriage and children interfere	.2992	-.2941	.1306	.6191
	4.70	1.26	5.28	1.37
	39.10	49.70	44.00	55.40

Crites (1969) proposed two categories of barriers that could interfere with one's career development. They are internal conflicts and external frustrations. Farmer (1976) suggested six internal barriers and three environmental barriers to women's career development. Harmon (1977), on the other hand, describe psychological and sociological barriers. Russell and Rush (1987) specifically examined women's views of 28 internal and external barriers to management careers.

Who am I? How far can I go? What can I, as a woman, do?

Studies continued to show that females develop more flexible self-concepts than males (Bridges, 1989; Etaugh & Liss, 1992), and they consider themselves in a broader array of life domains (Curry, Trew, Turner, & Hunter, 1994).

Coping efficacy will be an important variable for future study in social cognitive career theory. The relationship between cognitive and emotions when an individual cope with barriers will also be a valuable topic for future research.

It is interesting to note that while a group intervention for gigted college students reduced, indecision, it also increased awareness of external barriers and intrapersonal conflicts for the female participants (Schroer & Dorn, 1986).